UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/789,128	GREEN ET AL.
	Examiner	**Art Unit**	
	Timothy Weidner	2619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 November 2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-56</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-56</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>10/24/07</u>.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   Claims 1, 3, 9, 13, 22, 25, 30, 34, 35, 36, 39, 43, 47, 50 are currently amended.

2.   Claims 55 and 56 are new.   ·

3.   Applicant's amendments, see pages 16 and 17, filed 11/27/07, with respect to

objection to the abstract and rejections under 35 USC 101 have been fully considered

and are persuasive. These objections/rejections have been withdrawn.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

5.   Claims 55 and 56 rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

6.   Regarding claims 55 and 56, the limitation "exactly synchronized" in lines 2 and 4

respectively does not particularly point out that which applicant regards as the invention.

The part of the specification relied on for support is paragraph 68, which does not

provide the phrase "exactly synchronized," therefore no distinction is made between

"exactly synchronized" and "synchronized."

Claim Rejections - 35 USC § 102

7.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

8.   Claims 1-5, 7, 11, 12, 25, 26, 28, 32-35, 37, 41-45, 49-52, and 54 are rejected

under 35 U.S.C. 102(b) as being anticipated by Lee (U.S. 2003/0037331 A1).

9.   Regarding claims 1, 25, and 34, Lee teaches a processor-readable medium

having processor-executable instructions that, when executed by a processor

(paragraph 41), performs a method comprising: requesting a target multicast media-

stream transmission (paragraph 0044, lines 5-7, 17-19; "request to receive a particular

video ... merging the user into a pre-scheduled multicast"); receiving a unicast

acquisition media-stream transmission (paragraph 0044, lines 13-16, paragraph 0051,

lines 1-2; "the client is admitted to receive the video, at least initially, through a

dynamically initiated transmission ... every transmission over the dynamic channels

must be a unicast"), where the content of the unicast acquisition media-stream

transmission corresponds to that of the target multicast media-stream transmission

(paragraph 0048, lines 1-5; "dynamically admitted user receives at least a part ...

eventually merged into one of the pre-scheduled multicasts to receive the remainder

part"); decoding and presenting the content of the unicast acquisition media-stream

transmission (paragraph 0050, lines 3-6; "viewing the dynamically initiated transmission"

where decoding is inherent in viewing MPEG-4 video); switching reception from the

unicast acquisition media-stream transmission to the target multicast media-stream

transmission (paragraph 0050, lines 6-11; "the dynamically admitted user leaves the

dynamically admitted transmission and ... has been patched into, or merged into, the

multicast").

10. Further, regarding the corresponding time and synchronicity between the content of the unicast acquisition media-stream transmission and the target multicast media-stream transmission, Lee teaches with respect to figures 4B and 4C. The dynamic channel (unicast acquisition media-stream transmission) contains the front portion of a video while the static channel (target multicast media-stream transmission) also contains the front portion transmitted at an earlier time along with the remainder of the video, so both contain content from the same video (paragraph 50, lines 5-9). For example in figure 4C, front portion D1 is contained in both the dynamic and static channels. Still further, the content of both streams is transmitted at the same time (synchronously) between times Td and Tc (fig. 4B, paragraph 49, lines 1-3).

11. Regarding claim 2, Lee teaches receiving an indication to change to a new channel, the new channel being the target multicast media-stream transmission (paragraphs 0041, 0099; "the user resumes playback ... determine the nearest multicast channel"); requesting the target multicast media-stream transmission, wherein the transmission is representative of the new channel (paragraphs 0016, 0041, 0099; "locate and merge back into an existing static multicast channel").

12. Regarding claim 3, Lee teaches receiving an indication to change to a new channel, the new channel being represented by the target multicast media-stream transmission and the unicast acquisition media-stream (paragraph 0103-0105; "the user initiates seeking ... the seek position lies outside the client buffer ... if more precise seeking is needed, then a dynamic [unicast, refer to claim 1] channel is used to merge the client back to an existing static multicast channel"); requesting the unicast

acquisition media-stream which corresponds to the target multicast media-stream

transmission (paragraphs 0021, 0041, 0105; "receiving at least one request ... a

dynamic [unicast, refer to claim 1] channel is used to merge the client back to an

existing static multicast channel").

13.   Regarding claim 4, Lee teaches presenting the decoded content of the unicast

acquisition media-stream transmission (paragraphs 0050, 0093; "viewing the

dynamically initiated transmission" where decoding is inherent in viewing MPEG-4 video

because MPEG-4 must be decoded in order to be viewed).

14.   Regarding claims 5, 26, and 35, Lee teaches decoding and presenting the

decoded content of the target multicast media-stream transmission after the switching

(paragraphs 0019, 0050, 0093; "view content from ... the in-progress pre-scheduled

multicast" where decoding is inherent in viewing MPEG-4 video because MPEG-4 must

be decoded in order to be viewed).

15.   Regarding claims 7, 28, 37, and 45, Lee teaches frame properties of the unicast

acquisition media-stream transmission match those of the target multicast media-stream

transmission (paragraphs 0051, 0093; "receive two multicast channels concurrently ...

given a video bit-rate of 3 Mbps, a total of 6 Mbps ... will be needed ... when the client

is dynamically admitted" where "every transmission over the dynamic channels must be

a unicast").

16.   Regarding claims 11, 32, 41, and 49, Lee teaches the streams are MPEG-4

video (paragraphs 0093, 0178), and since the MPEG-4 stream inherently comprises I-

frames (random-access points) because that is how the protocol is defined, the

switching/splicing occurs during or close to the reception of a random-access point

(RAP) in the target multicast media-stream transmission.

17.   Regarding claims 12, 33, and 42, Lee teaches a computing device comprising: a

media-stream presentation device (figure 5, item 110a); a medium as recited in claims

1, 25, and 34 respectively.

18.   Regarding claim 43, Lee teaches a multimedia system comprising: a receiver

(paragraph 41) configured to simultaneously receive a unicast acquisition media-stream

transmission and a target multicast media-stream transmission (paragraphs 0051, liens

1-2, paragraph 0093, lines 1-2, 9-10; "each client has the capability to receive two

multicast channels concurrently ... for when the client is dynamically admitted" where

"every transmission over the dynamic channels must be a unicast"); a decoding unit

(paragraph 41) configured to decode both a unicast acquisition media-stream

transmission and a target multicast media-stream transmission (paragraph 0050, lines

3-9; "viewing the dynamically initiated transmission ... viewing the remainder of the

video" where decoding is inherent in viewing MPEG-4 video because MPEG-4 must be

decoded in order to be viewed); a splicing unit (paragraph 41) configured to splice from

the reception of the unicast acquisition media-stream to the reception of the target

multicast media-stream transmission (paragraphs 0050, lines 6-11; "the dynamically

admitted user leaves the dynamically admitted transmission and ... has been patched

into, or merged into, the multicast").

19.   Further, regarding the corresponding time and synchronicity between the content

of the unicast acquisition media-stream transmission and the target multicast media-

stream transmission, Lee teaches with respect to figures 4B and 4C. The dynamic

channel (unicast acquisition media-stream transmission) contains the front portion of a

video while the static channel (target multicast media-stream transmission) also

contains the front portion transmitted at an earlier time along with the remainder of the

video, so both contain content from the same video (paragraph 50, lines 5-9). For

example in figure 4C, front portion D1 is contained in both the dynamic and static

channels. Still further, the content of both streams is transmitted at the same time

(synchronously) between times Td and Tc (current transmission point) (fig. 4B,

paragraph 49, lines 1-3).

20. Regarding claim 44, Lee teaches a channel-change unit configured to receive an

indication to change to a new channel and to request the target multicast media-stream

transmission; wherein the transmission is representative of the new channel

(paragraphs 0041, 0051, 0093, 0103-0105; "the user initiates seeking ... the seek

position lies outside the client buffer ... if more precise seeking is needed, then a

dynamic multicast channel is used to merge the client back to an existing static

multicast channel," where "every transmission over the dynamic channels must be a

unicast").

21. Regarding claim 50, Lee teaches a processor-readable medium having

processor-executable instructions that, when executed by a processor (paragraphs 39,

44), perform a method comprising: receiving a request for transmission of a target

multicast media-stream (paragraph 0044, lines 5-7, 17-19; "request to receive a

particular video ... merging the user into a pre-scheduled multicast"); transmitting a

unicast acquisition media-stream over a unicast communications network, where the unicast acquisition media-stream corresponds to the target multicast media-stream (paragraph 0044, lines 13-16, paragraph 0051, lines 1-2; "the client is admitted to receive the video, at least initially, through a dynamically initiated transmission ... every transmission over the dynamic channels must be a unicast").

22. Further, regarding the corresponding time and synchronicity between the content of the unicast acquisition media-stream transmission and the target multicast media-stream transmission, Lee teaches with respect to figures 4B and 4C. The dynamic channel (unicast acquisition media-stream transmission) contains the front portion of a video while the static channel (target multicast media-stream transmission) also contains the front portion transmitted at an earlier time along with the remainder of the video, so both contain content from the same video (paragraph 50, lines 5-9). For example in figure 4C, front portion D1 is contained in both the dynamic and static channels. Still further, the content of both streams is transmitted at the same time (synchronously) between times Td and Tc (fig. 4B, paragraph 49, lines 1-3).

23. Regarding claim 51, Lee teaches preparing for transmission the unicast acquisition media-stream based upon the same original content of the corresponding target multicast media-stream (paragraphs 0044, 0048; figure 2, item 220; "it is determined whether the particular client should be admitted statically or dynamically ... dynamically admitted user receives at least a part ... eventually merged into one of the pre-scheduled multicasts to receive the remainder part").

24.   Regarding claim 52, Lee teaches transmitting the requested target multicast

media-stream over a multicast communications network (paragraphs 0042, 0045).

25.   Regarding claim 54, Lee teaches a computing device comprising: a transmitting

device for transmitting one or more media-streams via both unicast and multicast

communications networks (figure 1, item 100; paragraphs 0042, 0045, 0051); a medium

as recited in claim 50.

26.   Regarding claims 55 and 56, Lee teaches the content of both streams is sent at

the same time between Td and Tc (exactly synchronized) (fig. 4B, paragraph 49, lines

1-3).

Claim Rejections - 35 USC § 103

27.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

28.   Claims 6, 27, and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Lee (U.S. 2003/0037331 A1) as applied to claims 1, 25, and 34 respectively above,

in view of Keller-Tuberg (U.S. 2002/0024956 A1).

29.   Regarding claims 6, 27, and 36, Lee teaches, in paragraphs 0053, 0062, "when a

client arrives for the video and is decided to be dynamically admitted ... the request that

is sent includes ... the value of the needed duration," and "when the longest duration ...

has been broadcast ... the dynamically initiated transmission can stop." Further, Lee

teaches dynamic channels may be either unicast or multicast (paragraphs 0051, 0075).

30.   However, Lee does not teach requesting cessation. Keller-Tuberg, which is in

the same field of endeavor, teaches an end user volunteers disconnection from a flow

(paragraph 0077), which is the same as requesting cessation, so the routing device may stop streaming the packets, at its discretion, to the end user. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the client of Lee request cessation of transmission of the unicast acquisition media-stream transmission to have the routing device stop streaming packets at its discretion.

31.   Claims 8, 9, 29, 30, 38, 39, 46, 47, and 53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee (U.S. 2003/0037331 A1) as applied to claims 1, ·1, 25, 25, 34, 34, 43, 43, and 50 respectively above, in view of Chou (U.S. 6,637,031 B1).

32.   Regarding claims 8, 29, 38, and 46, Lee teaches the unicast acquisition media-stream transmission and the target multicast media-stream transmission, but not that the frame properties of the acquisition stream do not match those of the target stream. Chou, which is in the same field of endeavor, teaches frame properties of the acquisition media-stream transmission do not match those of a main media-stream transmission (column 3, lines 29-37; "a first data stream is a low resolution stream encoded at a bit rate below the transmission bit rate ... a second data stream is a normal resolution stream encoded at a bit rate equal to the transmission bit rate") for the purpose of reducing the start-up or seek delay for interactive multimedia applications (column 3, lines 51-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the unicast acquisition media-stream transmission and the target multicast media-stream transmission where their frame properties do not match to reduce the start-up or seek delay for interactive multimedia applications.

33.   Regarding claims 9, 30, 39, 47, and 53, Lee teaches the unicast acquisition

media-stream transmission and its corresponding target multicast media-stream

transmission, but not that the frames of the acquisition stream are encoded using a

lower bit-rate than that used by the target stream. Chou teaches the frames of the

acquisition media-stream are encoded using a lower bit-rate than that used by a

corresponding main media-stream (column 3, lines 29-37; "a first data stream is a low

resolution stream encoded at a bit rate below the transmission bit rate ... a second data

stream is a normal resolution stream encoded at a bit rate equal to the transmission bit

rate") for the purpose of reducing the start-up or seek delay for interactive multimedia

applications (column 3, lines 51-54). It would have been obvious to one of ordinary skill

in the art at the time the invention was made to have the unicast acquisition media-

stream transmission and its corresponding target multicast media-stream transmission

where the frames of the acquisition stream are encoded using a lower bit-rate that that

used by the target stream to reduce the start-up or seek delay for interactive multimedia

applications.

34.   Claims 10, 31, 40, and 48 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lee (U.S. 2003/0037331 A1) as applied to claims 1, 25, 34, and 43

respectively above, in view of Background of the Instant Application (herein,

"Admission").

35.   Regarding claims 10, 31, 40, and 48, Lee teaches the switching/splicing occurs,

and that the streams are MPEG-4 video which inherently comprises random-access

points (paragraphs 0093, 0178), but not that switching/splicing occurs before the

reception of a random-access point (RAP) in the target multicast media-stream

transmission. Admission teaches tuning to a channel and waiting for a random access

point into the stream, where a channel change cannot occur until an access point is

received for the purpose of accessing the target media stream (paragraphs 0026, 0030,

0031). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to have the switching/splicing occur before the reception of a

random-access point in the target multicast media-stream transmission to access the

target media stream.

36.   Claims 13-18 and 20-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Lee (U.S. 2003/0037331 A1) in view of Chou (U.S. 6,637,031 B1).

37.   Regarding claim 13, Lee teaches a processor-readable medium having

processor-executable instructions that, when executed by a processor (paragraph 41),

performs a method comprising: receiving a normal bit-rate unicast intermediate media-

stream transmission (paragraph 0044, lines 13-16, paragraph 0051, lines 1-2; "the client

is admitted to receive the video, at least initially, through a dynamically initiated

transmission ... every transmission over the dynamic channels must be a unicast"),

which corresponds to a target multicast media-stream transmission (paragraph 0048,

lines 1-5; "dynamically admitted user receives at least a part ... eventually merged into

one of the pre-scheduled multicasts to receive the remainder part"); decoding the

content of the unicast intermediate media-stream transmission (paragraph 0050, lines

3-6; "viewing the dynamically initiated transmission" where decoding is inherent in

viewing MPEG-4 video); switching reception from the unicast intermediate media-

stream transmission to the target multicast media-stream transmission (paragraph

0050, lines 6-11; "the dynamically admitted user leaves the dynamically admitted

transmission and ... has been patched into, or merged into, the multicast"). Further,

Lee teaches "prefix caching," where a patching unicast is used, then a dynamically

scheduled unicast or multicast, and then a pre-scheduled full multicast (paragraphs

0051, 0092).

38.   Further, regarding the corresponding time and synchronicity between the content

of the unicast acquisition media-stream transmission and the target multicast media-

stream transmission, Lee teaches with respect to figures 4B and 4C. The dynamic

channel (unicast acquisition media-stream transmission) contains the front portion of a

video while the static channel (target multicast media-stream transmission) also

contains the front portion transmitted at an earlier time along with the remainder of the

video, so both contain content from the same video (paragraph 50, lines 5-9). For

example in figure 4C, front portion D1 is contained in both the dynamic and static

channels. Still further, the content of both streams is transmitted at the same time

(synchronously) between times Td and Tc (fig. 4B, paragraph 49, lines 1-3).

39.   However, Lee does not teach receiving a low bit-rate media-stream transmission,

decoding the content of it, or switching reception from it to the unicast intermediate

media-stream transmission. Chou, which is in the same field of endeavor, teaches

receiving a low bit-rate acquisition media-stream transmission, which corresponds to a

target normal bit-rate media-stream transmission (column 3, lines 29-37; "the client

receives the low resolution stream"); decoding the content of the acquisition media-

stream transmission (column 3, lines 29-37; "decodes and presents the low resolution stream"); switching reception from the acquisition media-stream transmission to the intermediate media-stream transmission (column 3, lines 47-51; "server stops transmission of the low resolution stream and begins transmission of the normal resolution stream") for the purpose of reducing the start-up or seek delay for interactive multimedia applications (column 3, lines 51-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Lee's patching unicast, which corresponds to a dynamically scheduled unicast and a pre-scheduled full multicast, with Chou's low-bit rate acquisition stream, decode the content of the stream, and switch reception from Chou's low-bit rate acquisition stream to Lee's unicast intermediate stream to reduce the start-up or seek delay for interactive multimedia applications.

40.   Regarding claim 14, Lee teaches receiving an indication to change to a new channel, the new channel being the target multicast media-stream transmission (paragraphs 0041, 0099; "the user resumes playback ... determine the nearest multicast channel"); requesting the target multicast media-stream transmission, wherein the transmission is representative of the new channel (paragraphs 0041, 0099; "locate and merge back into an existing static multicast channel").

41.   Regarding claim 15, Lee teaches a patching unicast (unicast acquisition media-stream transmission), but not presenting the decoded content of it. Chou teaches presenting the decoded content of the acquisition media-stream transmission (column 3, lines 29-37; "decodes and presents the low resolution stream") for the purpose of

reducing the start-up or seek delay for interactive multimedia applications (column 3, lines 51-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to present the decoded content of the unicast acquisition media-stream transmission to reduce the start-up or seek delay for interactive multimedia applications.

42.   Regarding claim 16, Lee teaches presenting the decoded content of the intermediate media-stream transmission (paragraphs 0050, 0093; "viewing the dynamically initiated transmission" where decoding is inherent in viewing MPEG-4 video because MPEG-4 must be decoded in order to be viewed).

43.   Regarding claim 17, Lee teaches presenting the decoded content of the intermediate media-stream transmission after the switching from the unicast acquisition media-stream transmission (paragraphs 0050, 0092, 0093; "viewing the dynamically initiated transmission" where decoding is inherent in viewing MPEG-4 video because MPEG-4 must be decoded in order to be viewed).

44.   Regarding claim 18, Lee teaches decoding and presenting the content of the target multicast media-stream transmission after the switching from the intermediate media-stream transmission (paragraphs 0019, 0050, 0092, 0093; "view content from ... the in-progress pre-scheduled multicast" where decoding is inherent in viewing MPEG-4 video because MPEG-4 must be decoded in order to be viewed).

45.   Regarding claim 20, Lee teaches frame properties of the unicast intermediate media-stream transmission match those of the target multicast media-stream transmission (paragraphs 0051, 0093; "receive two multicast channels concurrently ...

given a video bit-rate of 3 Mbps, a total of 6 Mbps ... will be needed ... when the client

is dynamically admitted" where "every transmission over the dynamic channels must be

a unicast").

46.   Regarding claim 21, Lee teaches a patching unicast (unicast acquisition media-

stream transmission) and the target multicast media-stream transmission, but not that

their frame properties do not match. Chou teaches frame properties of the acquisition

media-stream transmission do not match those of a main media-stream transmission

(column 3, lines 29-37; "a first data stream is a low resolution stream encoded at a bit

rate below the transmission bit rate ... a second data stream is a normal resolution

stream encoded at a bit rate equal to the transmission bit rate") for the purpose of

reducing the start-up or seek delay for interactive multimedia applications (column 3,

lines 51-54). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to have the unicast acquisition media-stream transmission and the

target multicast media-stream transmission where their frame properties do not match

to reduce the start-up or seek delay for interactive multimedia applications.

47.   Regarding claim 22, Lee teaches a patching unicast (unicast acquisition media-

stream transmission) and the intermediate media-stream transmission, but not that the

frames of the acquisition stream are encoded using a lower bit-rate than that used by

the intermediate stream. Chou teaches the frames of the acquisition media-stream

transmission are encoded using a lower bit-rate than that used by the intermediate

media-stream transmission (column 3, lines 29-37; "a first data stream is a low

resolution stream encoded at a bit rate below the transmission bit rate ... a second data

stream is a normal resolution stream encoded at a bit rate equal to the transmission bit rate") for the purpose of reducing the start-up or seek delay for interactive multimedia applications (column 3, lines 51-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the unicast acquisition media-stream transmission and the intermediate media-stream transmission where the frames of the acquisition stream are encoded using a lower bit-rate that that used by the intermediate stream to reduce the start-up or seek delay for interactive multimedia applications.

48.   Regarding claim 23, Lee teaches a patching unicast (unicast acquisition media-stream transmission) and the target multicast media-stream transmission, but not that the frames of the acquisition stream are encoded using a lower bit-rate than that used by the target stream. Chou teaches the frames of the acquisition media-stream transmission are encoded using a lower bit-rate than that used by a main media-stream transmission (column 3, lines 29-37; "a first data stream is a low resolution stream encoded at a bit rate below the transmission bit rate ... a second data stream is a normal resolution stream encoded at a bit rate equal to the transmission bit rate") for the purpose of reducing the start-up or seek delay for interactive multimedia applications (column 3, lines 51-54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the unicast acquisition media-stream transmission and the target multicast media-stream transmission where the frames of the acquisition stream are encoded using a lower bit-rate that that used by the target stream to reduce the start-up or seek delay for interactive multimedia applications.

49.   Regarding claim 24, Lee as modified by Chou teaches a computing device

comprising: a media-stream presentation device (Lee; figure 5, item 110a); a medium

as recited in claim 13.

50.   Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lee

(U.S. 2003/0037331 A1) in view of Chou (U.S. 6,637,031 B1) as applied to claim 13

above, and further in view of Keller-Tuberg (U.S. 2002/0024956 A1).

51.   Regarding claim 19, Lee teaches, in paragraphs 0053, 0062, "when a client

arrives for the video and is decided to be dynamically admitted ... the request that is

sent includes ... the value of the needed duration," and "when the longest duration ...

has been broadcast ... the dynamically initiated transmission can stop." Further, Lee

teaches dynamic channels may be either unicast or multicast (paragraphs 0051, 0075).

52.   However, Lee does not teach requesting cessation. Keller-Tuberg teaches an

end user volunteers disconnection from a flow (paragraph 0077), which is the same as

requesting cessation, so the routing device may stop streaming the packets, at its

discretion, to the end user. It would have been obvious to one of ordinary skill in the art

at the time the invention was made to have the client of Lee request cessation of

transmission of the unicast acquisition media-stream transmission to have the routing

device stop streaming packets at its discretion.

Response to Arguments

53.   Applicant's arguments filed 10/27/07 have been fully considered but they are not

persuasive.

54.   In response to applicant's argument, beginning on page 23, that there is no

suggestion to combine the references, the examiner recognizes that obviousness can

only be established by combining or modifying the teachings of the prior art to produce

the claimed invention where there is some teaching, suggestion, or motivation to do so

found either in the references themselves or in the knowledge generally available to one

of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir.

1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case,

the motivation to combine is "to reduce the start-up or seek delay for interactive

multimedia applications ... such as video on-demand, at the expense of initially lower

quality" (Chou, col. 3 lines 51-54), which is also specified as desirable by Lee in

combination with patching (paragraphs 103 and 104, lines 7-9 and 5-8 respectively).

Further evidence of proper combination of the references is shown in the suggestion

that both may use more than two streams to achieve a reduced start-up and seek delay

(Lee, paragraph 92 and Chou, col. 4 lines 42-43, 55-58).

55.   Applicant's assertion, in paragraph 46 of the response, that Lee "declares

"Surprisingly, the results show that in all cases the latency is minimized ...", (para

[0137])" further supports the motivation for a person of ordinary skill in the art to find

more ways to reduce the latency, start-up, and seek delay because knowledge to one of

ordinary skill in the art includes the desirability of reduced latency, e.g. there is a higher

cost for high speed internet. The solution used by Lee to solve the same problem is

different than that used by Chou, which would lead a person of ordinary skill in the art to

use the teaching of Chou to further reduce the latency, start-up, and seek delay at the expense of initially lower quality caused by Chou's first low-bit rate stream.

56.   In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

57.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy Weidner whose telephone number is (571) 270-1825. The examiner can normally be reached on Monday - Friday, 8:00 AM - 5:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau Nguyen can be reached on (571) 272-3126. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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